

TWO NEW GENERA OF LAND MOLLUSCS (PAPUININAE) FROM THE CENTRAL HIGHLANDS OF NEW GUINEA

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(Plate 1, Text fig. 1-3.)

We are grateful to Dr. D. F. McMichael of the Australian Museum, Sydney, for specimens of the species described below, one of which is new. Both species were obtained near the head of the Wahgi Valley, not far from the base of Mt. Hagen. These were collected in 1946 by F. S. Mayer. Dr. E. O. Wilson of the Biological Laboratories, Harvard University, collected *Papuanella ogeramuensis* (Kobelt) and *P. finisterrensis* (Kobelt) during his trip to the Huon Peninsula in 1955.

WAHGIA *gen nov.*

Shells depressed, trochoid in shape with the body whorl descending rapidly to form the aperture which is directed downward but not constricted. Aperture sub-elliptical with the peripheral area extended to form a "beak" and having a slight indication of a papuoid notch. Whorls carinate.

In the reproductive system, the spermatheca is globular and has a very short spermathecal duct. The penis is short and has a small epiphallus with the vas deferens coming from the side and the penial retractor muscle attached to the penis at the base of the epiphallus.

Type species, *Wahgia juliae* Clench and Turner.

WAHGIA JULIÆ *sp. nov.*

(Plate 1, fig. 1-3; text fig. 1; text fig. 2, fig. 2-3.)

Description. Shell sub-depressed, trochiform, imperforate, nearly smooth, and reaching 34 mm. (about 1 $\frac{3}{8}$ inches) in greatest diameter. Ground colour olive-brown, increasing in intensity toward the lip. On some specimens the black is diffused into the olive-brown near the aperture. On most specimens there is a narrow spiral band of black just above the acute keel. Whorls 4 $\frac{1}{2}$ and acutely keeled, somewhat flattened above and convex below. Spire sub-depressed, obtuse and produced at an angle of about 100°. Aperture descending, sub-elliptical, rostrate, with a well-defined notch and produced at an angle of about 25° from the base. Outer lip rather narrow, straight above the keel and reflected below. Columella very short. Suture very slightly indented.

Height	Width	
21 mm.	32 mm.	Holotype
20.5	33	Paratype
21.5	34.5	Paratype
18.5	27.5	Paratype
18	28	Paratype

Types. The holotype of *Wahgia juliae* is in the Australian Museum, Sydney, Australia, no. C.62212. The type locality is twelve miles N.E. of Mount Hagen Range, Sepik-Wahgi Divide, New Guinea, at 5000-6000 feet, F. S. Mayer collector, November 1946. Paratypes from the same

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locality are in the Australian Museum no. C.62213 and the Museum of Comparative Zoology no. 191399 and 191400.

Remarks. This is a very distinctive species and we know of nothing to which it is closely related. It appears to be nearest in both shell morphology and type of colouration to *Pompalabia macgillivrayi* (Forbes) of northern Queensland, but the reproductive systems are quite different. The spermatheca in *juliae* is globular with a very short spermathecal duct, while in *macgillivrayi* the spermatheca is oval and the stalk is sixteen times as long as the spermatheca. The penial apparatus in *juliae* is short and is without a flagellum; in *macgillivrayi* it is long and has a flagellum. This new species has a superficial resemblance to *Rhynchotrochus*, differing mainly in its type of colouration but again very different in its soft anatomy. The penis of *Rhynchotrochus tayloriana* (Adams and Reeve) is elongate and has a long, narrow epiphallus with the vas deferens and a small flagellum at the end. In *juliae*, the epiphallus is very short and thickened, with the vas deferens coming from the side, and no flagellum.

Specimens examined. NEW GUINEA: Twelve miles north-east of Mt. Hagen, Sepik-Wahgi Divide at 5000-6000 feet; hills south of Baiyer River, about 20 miles north of Mt. Hagen (AM; MCZ).

PAPUANELLA *gen. nov.*

Shells trochoid in shape with the body whorl of the adult descending slightly to form the aperture which is directed downward and is somewhat contracted. Aperture subcircular to ovate. The lip is simple, slightly thickened but not reflected, and lacking a papuinoid notch. Whorls convex and slightly carinate.

The reproductive anatomy is characterized by a ovate spermatheca with a moderately long spermathecal duct. The penial apparatus is short and has a moderately thick wall with a short and recurved epiphallus. The penial retractor muscle is attached to the epiphallus at the recurved area. In general shell outline this genus is shaped similarly to *Noctepuna* of Queensland, but the reproductive systems of these two groups are very different, and in shell characters they differ in that the aperture of *Noctepuna* is not constricted.

Type species, *Geotrochus ogeramuensis* Kobelt.

PAPUANELLA OGERAMUENSIS (Kobelt).

(Plate 1, fig. 4-7, text fig 2, fig. 1, 4; text fig. 3.)

Geotrochus ogeramuensis Kobelt 1914, *Nachrichtsblatt Malak. Gesell.* 46, p. 5; *ibid* 1917, 49, p. 5, pl. 1, fig. 4. (Ogeramua [Finisterre Mts.] German New Guinea).

Description. Shell extended, trochiform, imperforate, nearly smooth, glossy and reaching 25 mm. (about 1 inch) in greatest diameter. Ground colour yellowish to light yellowish green with a few specimens being a reddish brown. Occasional specimens may be a uniform greenish yellow, though there is generally one, and sometimes up to five, spiral bands of colour which range from brown to nearly black. The body whorl is usually predominantly green. Earliest $2\frac{1}{2}$ whorls dark brown to black. The umbilical area and the inner surface of the lip black to bluish black. Interior of the aperture bluish black. Whorls 5 and moderately

convex with the periphery of the body whorl faintly keeled. Spire extended, acute and produced at an angle of about 65° . Aperture subcircular to ovate, slightly descending and cast at an angle of about 27° from the base. Outer lip simple, straight and without a papuinoïd notch. Parietal wall thinly glazed. Columella short, slightly curved and dark brown edged with gray. Sculpture consisting of very numerous and fine diagonal growth lines, nuclear whorls smooth.

Height	Width	
24.5 mm.	25.5 mm.	15 miles N.E. of Mt. Hagen.
23	24	15 miles N.E. of Mt. Hagen.
21.5	22	15 miles N.E. of Mt. Hagen.
21	20.2	15 miles N.E. of Mt. Hagen.

Types. According to Sherborn (1940) the Kobelt collection is in the museum at Frankfurt a/M. The type locality is Ogeramua, Finisterre Mountains, German New Guinea.

Remarks. This is a very variable species, particularly in colour, ranging as it does from a uniform light greenish yellow to specimens which are nearly uniform dark blackish brown. The dominant colour pattern, however, is a yellowish green with a peripheral band of blackish brown.

The reproductive system of *P. ogeramuensis* is characterized by its short, thick-walled penis which has a short, recurved epiphallus with the vas deferens coming from the side near the end. The spermatheca is ovate and the spermathecal duct is about one-third the length of the uterus. *Papuanella finisterrensis* (Kobelt) has a very similar reproductive system.

Range: The range of the species, so far as now known, extends from Telefomin, east-south-east to the Huon Peninsula, a distance of about 450 miles.

Specimens examined: NEW GUINEA: Aiyura, 80 mi. N.W. of Lae at 6000 ft.; Minj, 55 mi. W. of Goroka; 15 mi. N.E. of Mt. Hagen Range at the Sepik-Wahgi Divide at 5000-6000 ft.; hills south of Baiyer River about 20 mi. N. of Mount Hagen; 2 mi. S. of Telefomin, Victor Emanuel Range (all AM; MCZ); Gemeheng, Hube area and Tumnang, Mangi Watershed, both Huon Peninsula (both MCZ).

PLATE I.

Fig. 1-3, *Wahgia juliae* Clench and Turner, 12 mi. N.E. of Mt. Hagen, Sepik-Wahgi Divide, New Guinea. Fig. 1. Holotype, Australian Museum no. C.62212.

Fig. 2. Paratype, Museum of Comparative Zoology no. 191399.

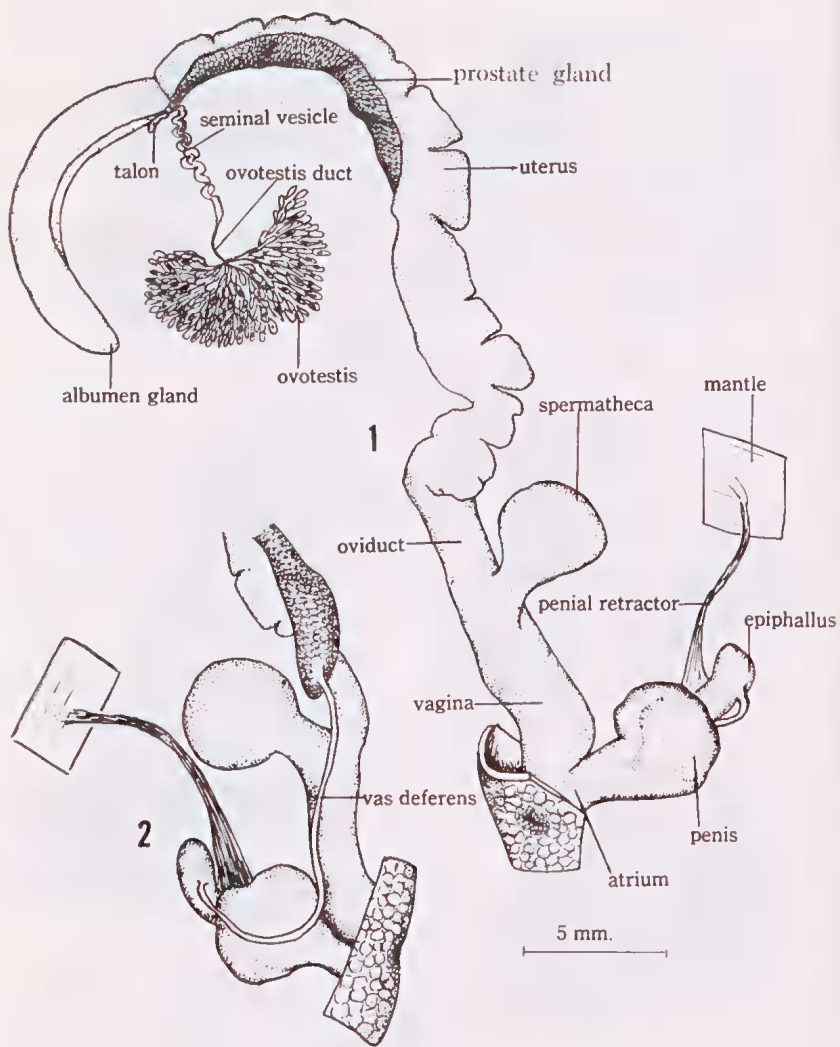
Fig. 3. Paratype, Museum of Comparative Zoology no. 191400 (all 1.6x).

Fig. 4-7. *Papuanella ogeramuensis* (Kobelt), 15 mi. N.E. of Mt. Hagen, Sepik-Wahgi Divide, New Guinea.

Fig. 4-6. Australian Museum no. C.62214.

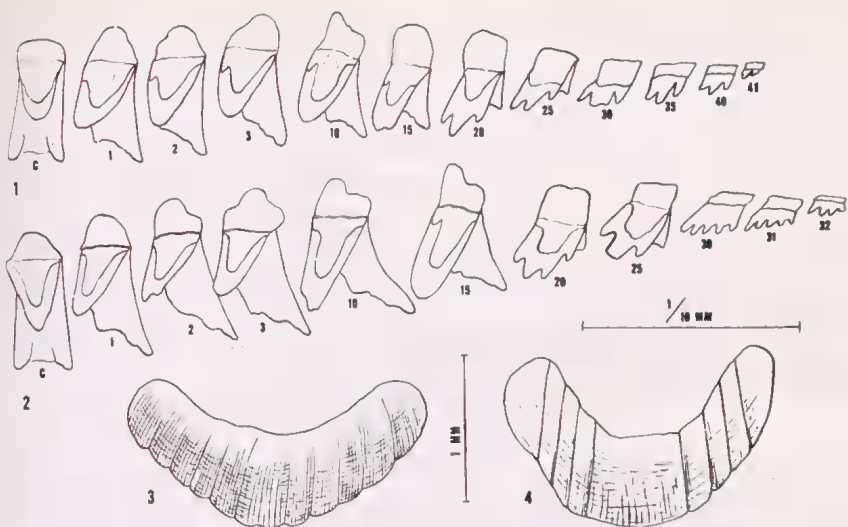
Fig. 7. Museum of Comparative Zoology no. 191399 (all 2x).





Text fig. 1.

Reproductive anatomy of *Wahgia juliae* Clench and Turner.
 Fig. 1. Complete system.
 Fig. 2. Basal area reversed.



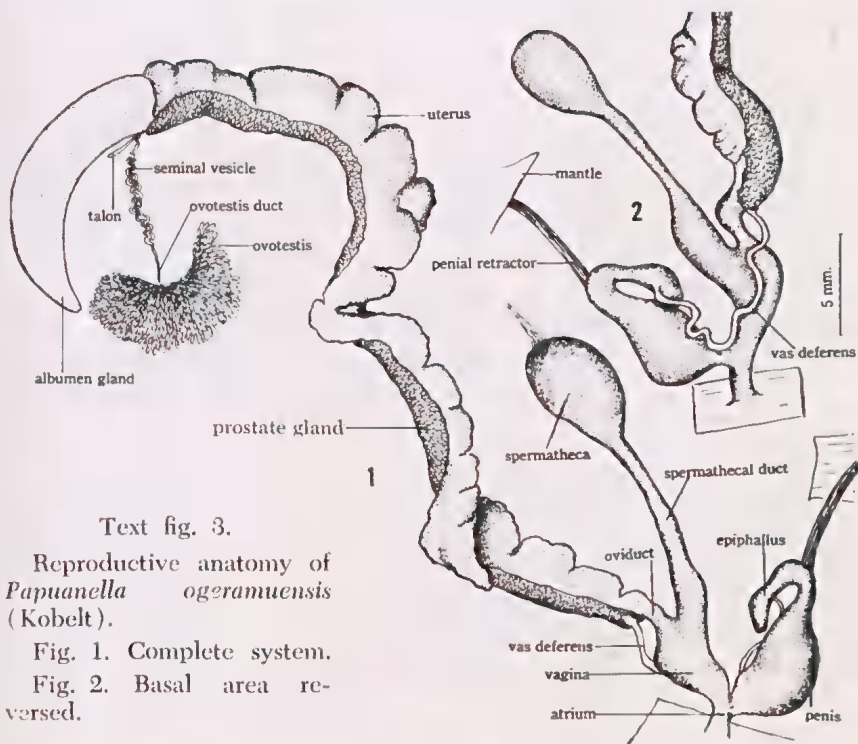
Text fig. 2.

Fig. 1. Radula of *Papuanella ogeramuensis* (Kobelt).

Fig. 2. Radula of *Wahgia juliae* Clench and Turner.

Fig. 3. Jaw of *Wahgia juliae* Clench and Turner.

Fig. 4. Jaw of *Papuanella ogeramuensis* (Kobelt).



Text fig. 3.

Reproductive anatomy of *Papuanella ogeramuensis* (Kobelt).

Fig. 1. Complete system.

Fig. 2. Basal area reversed.